

Most Enriched GO functions			
Module 1	Module 3	Module 4	Module 6
glutamate receptor activity	cell junction	cytosolic ribosome	endocytosis
ionotropic glutamate receptor activity	cell-cell junction	cytosolic part	membrane invagination
glutamate signaling pathway	cadherin binding	ribosome	membrane organization
synaptic transmission		cytosolic small ribosomal subunit	membrane organization
learning or memory		translation	receptor-mediated endocytosis

Supplementary Table 1. Top significantly enriched functions in modules. The post-synaptic proteome protein interaction network was constructed and spectral partitioning performed. After partitioning, four modules show significant enrichment of functions in the gene ontology ($p < 0.01$ after multiple test correction). Partitioning of the network separates genes into similar functional categories.